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ABSTRACT

This document reports the case of 2-year-old girl who demonstrated verbal ability at home but who communicated through nonverbal means in the preschool classroom setting. Baseline data was collected by classroom observation for approximately 32 minutes per day during a 6-day period using an interaction process analysis format. Verbal and nonverbal categories were recorded at 10-second intervals and indicated the direction of communication between subject, peers, and teachers. Analysis of baseline data showed gestural communication to predominate over verbal communication in a ratio of 4 to 1. As a result, a 10-day period of teacher intervention was instigated to increase the child's verbalizations by an increase in teacher talk and by the utilization of wh-form questions (who, what, when, where, and why). Praise was used to provide positive reinforcement. The 10-day period yielded little improvement in verbal responses, but continuation of the treatment produced a steady increase in verbal behavior. It was noted that without teacher help the child could maintain verbal gains, and peer reinforcement is mentioned as a possible factor in the maintained improvement in the rate of verbalization. (GO)

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How Teacher Talk Creates Child Chatter

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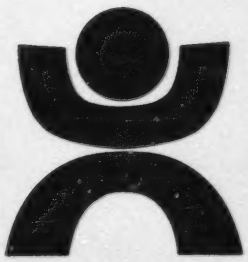

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A DAY CARE ENVIRONMENT

Questions about how to provide good day care are becoming increasingly important to our society. A growing number of mothers either must work to support their families or want professional careers in addition to homemaking. What can a day care center do to take the mother's place effectively for eight or more hours per day? Among professional educators and others who work with children there is agreement on at least a basic point: babysitting is not enough. Day care staffs must make a serious effort to provide an environment that will stimulate the child's development during the hours away from home.

The Frank Porter Graham Child Development Center (FPG) is a research unit pursuing the questions of children's development. Included in the Child Development Center is a preschool day care unit that takes full-time care of up to 40 children from the ages of one to four. These children, of varying racial, socio-economic, and cultural backgrounds, work and play in an environment that is designed to let them grow and fulfill their potential. A large, light-filled classroom is informally divided by equipment into interest areas: blocks, dramatic play, games, art, reading corner, and water and sand play.

During the morning, units of study appropriate to preschoolers are followed in order to teach valuable pre-academic and other skills.

In the group period, the two- and three-year-olds may hear a story that emphasizes concepts such as "alike and different" or "how many." During free activity periods, each child chooses what he or she wants to do from activities planned by the teachers. Teachers frequently focus the children's attention on things and events in their environment (i.e., "The circus is coming to town!") that will heighten the child's awareness of the world around him. Puzzles and manipulative materials are offered to increase perceptual and fine motor skills. Available also during this time are a number of open-ended activities, such as blocks and water play, that help a child develop motor and social skills. Art activities are designed to teach concepts such as color and size as well as creative expression.

FPG day care staff pay careful attention to the nutritional value of lunches and snacks not only because all children need good food, but because some children receive inadequate nutrition at home. At FPG, the children eat together at child-sized tables with a teacher in attendance. Each child serves himself; this encourages the children to taste more foods and helps them attain motor coordination and independence (Hall and Holmberg, 1974).

In the afternoon, the children sleep or rest quietly and then have a snack. This snack time is used to introduce new foods to children and to allow children to make their own snacks. Before leaving for the day, the children have more planned activities both indoors and out.

ENCOURAGING USE OF LANGUAGE

One of the most important skills a child develops between the ages of one and four is facility with language. By the age of two, most children are busy with the task of learning to talk, producing sounds and words in response to their environment. Developing this ability will help them achieve many of their goals as they grow into adults--in school, in their work, and with other people. Because of the importance of language, FPG teachers encourage the child's verbal interaction with them and with his peers. Occasionally a child will need help in learning to use words for what he wants to do.

"I never hear Joanelle ask for anything." "She always pulls at my apron skirt to get my attention." "Why does Joanelle always point or shake her head?" "I'm worried about Joanelle...other children her age are talking." These comments were made by teachers in the FPG day care center concerning a two-year-old girl.

A normal child, Joanelle lived alone with her mother, who at first was struggling to finish high school and later worked full-time. While Joanelle was a happy child and not withdrawn from the other children, she simply did not talk much at preschool. She achieved her communication with others through non-verbal means: pointing to what she wanted, shaking her head or grunting.

According to home reports, Joanelle knew how to use words. The staff was therefore concerned not about Joanelle's ability to use language, but rather her excessive reliance on non-verbal behavior. Day

care teachers decided to try to encourage Joanelle's use of language and decrease use of non-verbal communication.

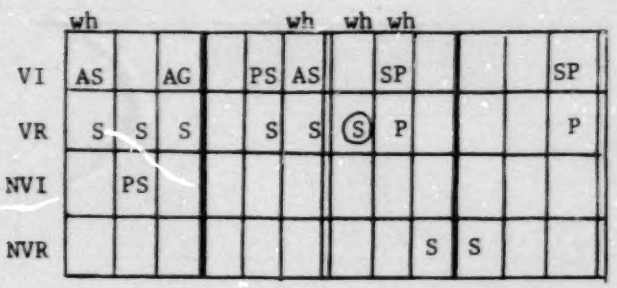
Preliminary observations were begun to determine if Joanelle's rate of verbalization was really low enough to need attention. An observer followed her to record what she said. Joanelle's rate of verbalization was low enough that the observer, writing in longhand, easily recorded her words verbatim. Further study was planned.

So that they would know exactly what kind of behavior they were changing, the teachers needed to record accurately the child's initial pattern of verbalization. This "baseline" data would also be needed later to tell the teachers if they were making any progress in whatever remedial program they undertook. Although the preliminary observations had shown that Joanelle's rate of verbalization was low, the baseline data was needed to show exactly how much time Joanelle was spending communicating with others, both verbally and non-verbally.

A four-line grid form (sample on next page) was chosen to measure Joanelle's verbal and non-verbal interactions. Line 1 at the top was used to record verbal initiations (including Joanelle's initiations to others as well as those of her peers and teachers to her). Line 2 was for recording all verbal responses. In similar fashion, lines 3 and 4 respectively were used to record non-verbal initiations and responses. An initiation was defined as any behavior, verbal or non-verbal, that began or tried to begin an interaction. A response was any behavior that directly followed an earlier initiation. Verbalizations were any initiations or responses made by using words or vocalizations which could be understood by the observer recording the behaviors. In

addition, a letter code was devised to distinguish between the behaviors of the three groups being observed: Joanelle, her peers, and the adults.

SAMPLE FOUR-LINE GRID



wh:	wh question by teacher	VI:	verbal initiations
S:	subject responds	VR:	verbal responses
P:	peer responds	NVI:	non-verbal initiations
AS:	adult to subject	NVR:	non-verbal responses
AG:	adult to group		
SP:	subject to peer		
PS:	peer to subject	Each vertical column	
Ⓢ:	subject to self	represents 10 seconds	

Each line of the grid was divided into 10-second intervals and the observer recorded only the first behavior that took place during each 10-second interval. When verbal and non-verbal behavior occurred simultaneously, verbal took precedence. Teacher behaviors (wh questions and reinforcements) were recorded above any interval in which they occurred, even if a previous interaction had already been recorded. If a teacher asked a child other than Joanelle a question, the teacher's question was not recorded. If the teacher asked a group of children a question ("Children, what do you see in this picture?") and Joanelle answered, this interaction was recorded. Having developed the grid and code, the teachers were ready to find out what Joanelle was doing.

During the initial observation, or baseline, Joanelle was observed approximately 32 minutes per day for six days. She was observed only in a setting, such as free-choice activity time, in which talking out was encouraged. Most observations were recorded in the classroom, rather than outdoors, in order to help the observer stay close enough to Joanelle to understand her verbalizations. (Incidentally, the teachers noticed that Joanelle spoke more often outdoors anyway, and were more concerned with verbalization during a specified time indoors.)

At the end of the 6-day baseline, Joanelle's record looked somewhat depressing. Her verbal behavior fell below 5% every day except one. Her non-verbal behavior, by comparison, was very high--18% or more every day, with a high of 37%. She was gesturing or pointing on the average four times as much as she was talking. Figure 1 shows the difference.

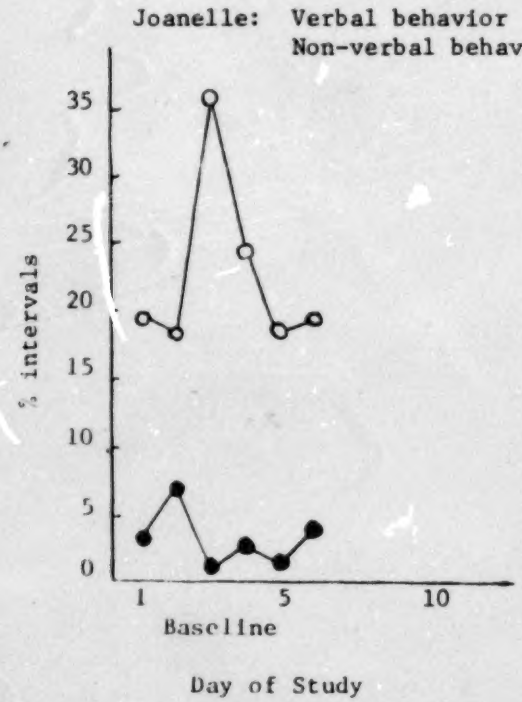


FIGURE 1

The question now became one of how to increase Joanelle's rate of verbalization. The teachers and day care director met to design an intervention program. The dependent variable (behavior to be evoked) was Joanelle's amount of verbalization. The independent variable (the action or behavior directly under the teacher's control) was the behavior of the teachers themselves. The teachers decided to see what would happen when they changed their own interaction pattern with Joanelle.

A two-sided tactic was decided upon. In addition to merely talking more with Joanelle, which might--or might not--increase the amount of her verbalization, the staff decided to use "primes." The primes in this case were wh-questions (questions beginning with the words who, what, when, where, and why.) Teachers asked, "Which story do you want, Joanelle?" rather than "Do you want this story?" "What is your baby going to eat?" rather than "Does your baby want some milk?" The wh-questions could not be answered with a head movement but required the use of words. Questions which Joanelle could answer by pointing or gesturing were immediately followed by a request for a verbal response: "Do you want the red block or the blue block? Please tell me with your voice." Praise was used as a potential positive reinforcer. It was hoped that telling Joanelle "That's good talking" or "You told me with your voice...great!" would encourage her to talk even more.

The teachers then launched into their first period of wh-questions and praise. They concentrated on Joanelle in her free activity periods, asking her questions which required a verbal reply, talking with her, and praising her when she answered verbally. During this 10-day period of wh-questioning, the teachers spent between 4.0% and 18.9% of their time priming Joanelle, with an average rate of 12.8%. They spent between

1.0% and 8.3% of their time praising her, with an average rate of 4.0%. Figure 2 shows the teachers' deliverance of wh-questions and praise.

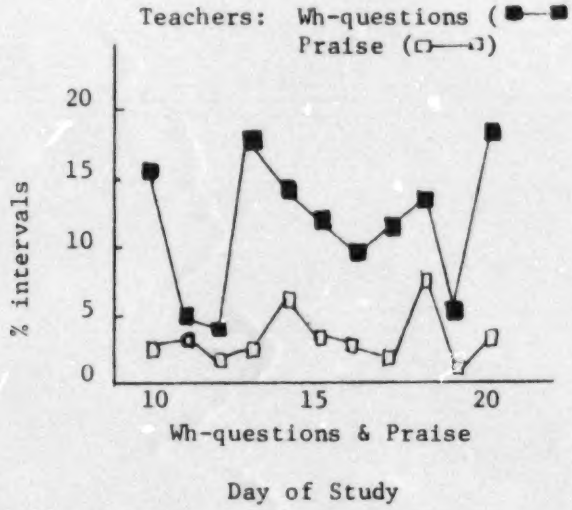


FIGURE 2

The effect on Joanelle's behavior at first was small, as shown in Figure 3:

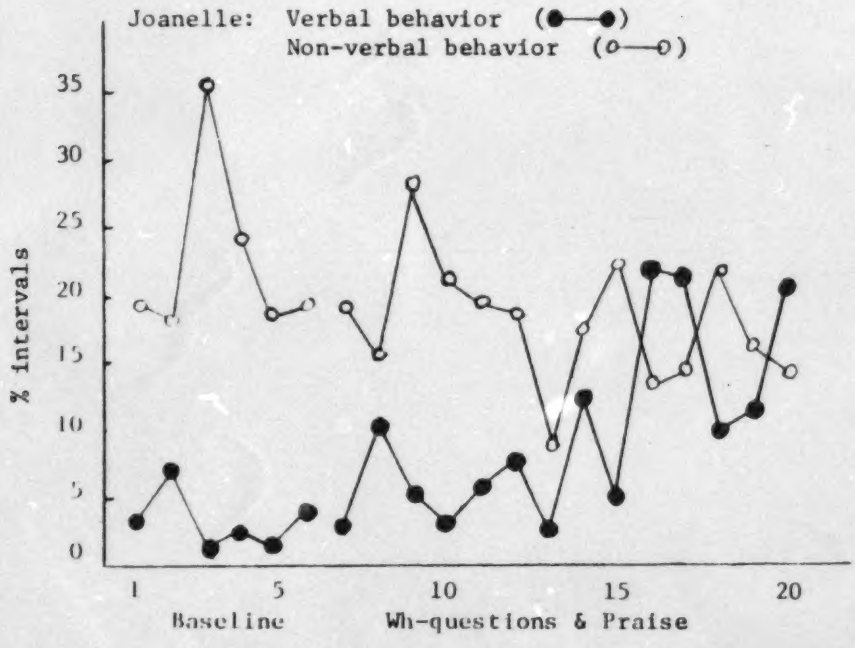


FIGURE 3

Her behavior from days 7-13 had inched above 5% but was still clearly lower than non-verbal or gestures (see Figure 3, page 8). Following day 13, which was when teachers began to use wh-questions consistently (as shown in Figure 2, page 8). verbal behavior began to climb steadily. During three of the last five days of the interaction, verbal behavior was higher than non-verbal behavior. During the last five days her verbal behavior averaged 16.9% and her non-verbal behavior 16.1%. Talking had now slightly surpassed gesturing. Figure 3 shows the progress during this period.

The teachers' actions obviously affected Joanelle's behavior and in the desired manner. The next question was whether or not the change in verbalizing was due to teachers' efforts to ask particular kinds of questions or whether Joanelle was learning language skills independently. In order to find out, a second baseline condition was imposed for four days. The teachers primed and reinforced Joanelle as little as possible during the second baseline condition, as shown in Figure 4 (days 21-24, shown on page 10).

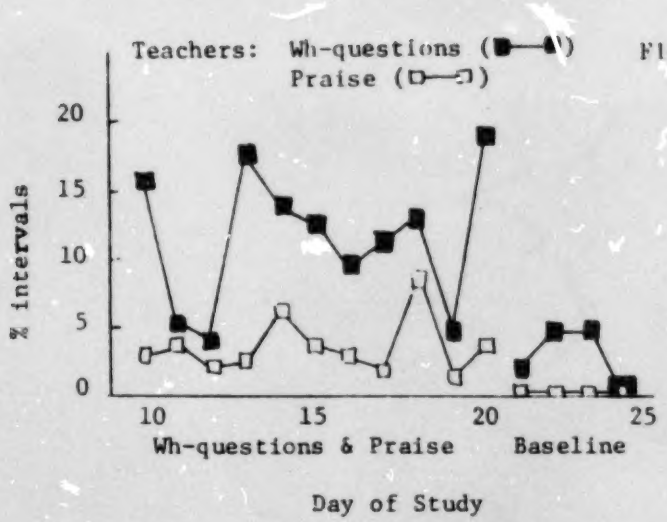


FIGURE 4

Joanelle's rate of verbalization stabilized at a rate higher than her original baseline rate and her non-verbal behavior continued its downward trend. See Figure 5, days 21-24. Joanelle now seemed to enjoy talking--perhaps some reinforcement for talking was now coming from peers.

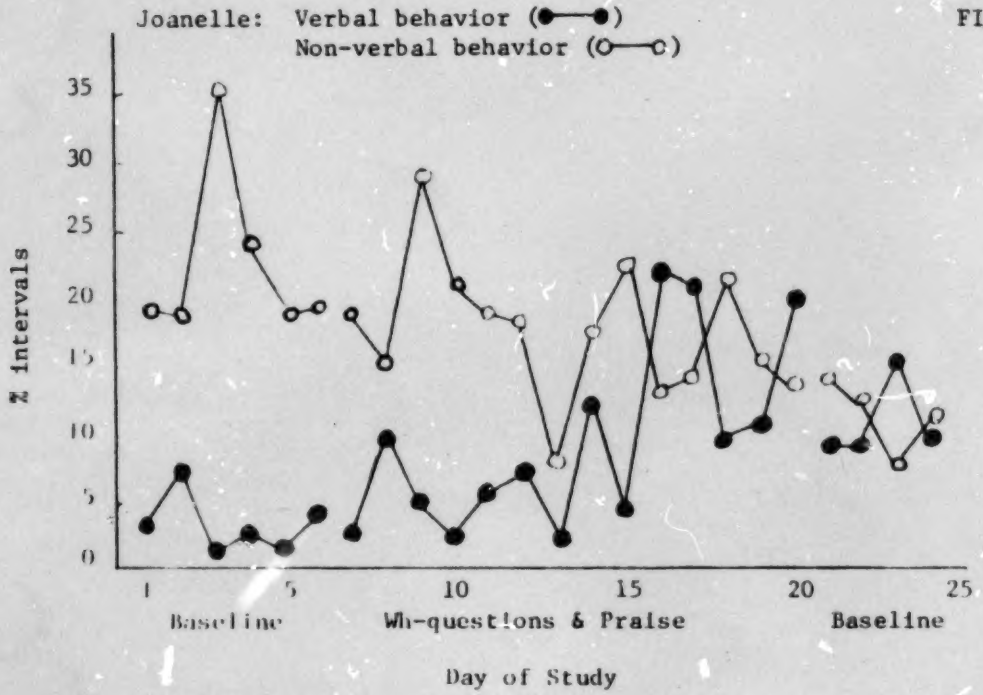


FIGURE 5

A second intervention period was introduced to see whether Joanelle's rate of verbalization would be pushed even higher. The percentage of wh-questions and praise during this period is shown in Figure 6.

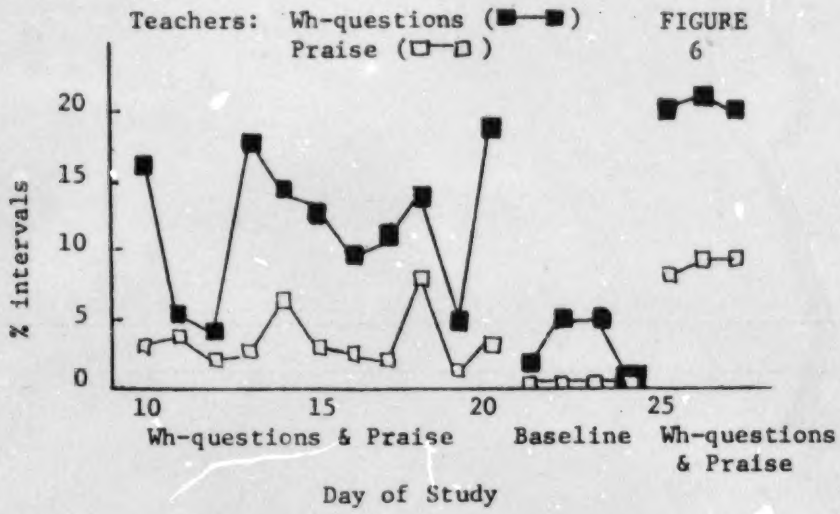


FIGURE 6

The effect on Joanelle's behavior is shown in Figure 7.

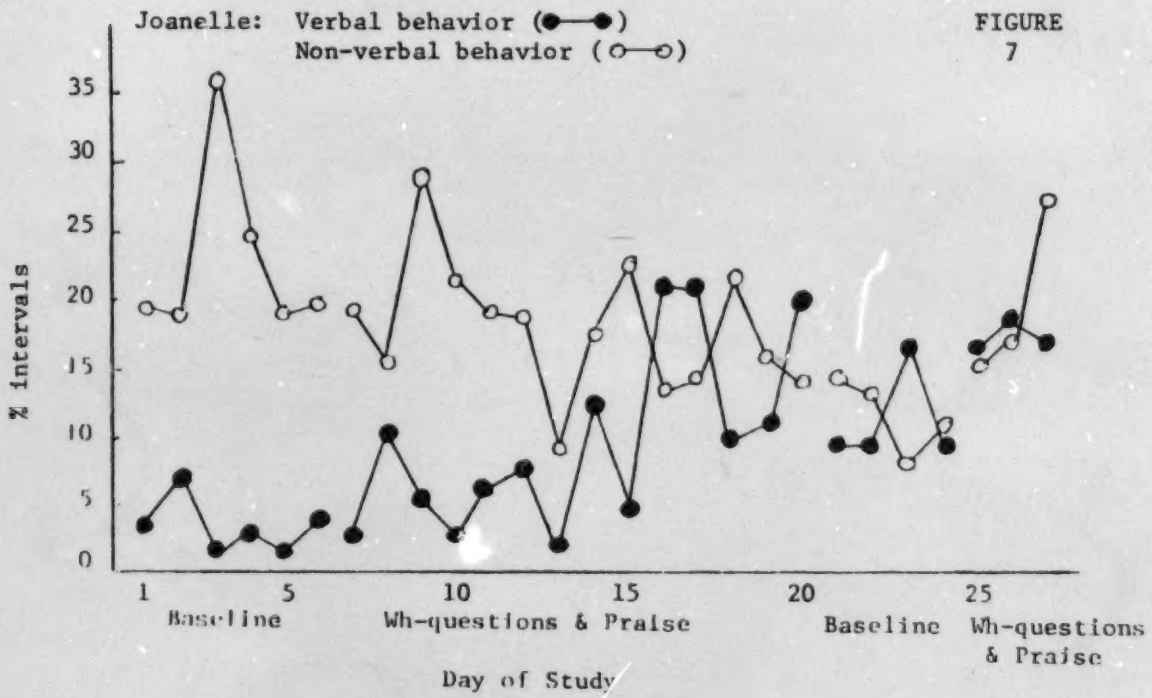


FIGURE 7

Joanelle needed little encouragement. Her verbal behavior during this period was higher than that of the second baseline condition, and higher than her non-verbal behavior for two of the last three days. As Figure 7 shows, the teachers were accomplishing exactly what they had planned.

Thus, when teachers deliberately planned to increase Joanelle's talking by rephrasing their questions, they were in fact successful. And without teacher help, Joanelle could now maintain a relatively high rate of talking on her own.

Having been given a strategic "shove" in the right direction, Joanelle continues to talk more with her teachers and peers in preschool than she did before the study. Now she initiates conversations with others. Her increased practice has made her speech easier to understand and she uses complete phrases when talking. The hours of data collecting, the teachers' use of a specific kind of question and reinforcement strategy, and the gray graphs charting her behavior have helped Joanelle discover that talking with others can be fun. True, she may have begun to use language without the concentrated teachers' help, but she may not have either. A child's development should not be left to chance. Early concern with behavior that could potentially be a problem in this case paid off. Teachers learned procedures which, with little extra effort, created an environment in which language could develop.

SUGGESTED READING LIST

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